

Amendments to the Claims

1. (Currently Amended) A method for the detection of *Streptococcus sobrinus* in a test fluid suspected of containing *Streptococcus sobrinus* and *Streptococcus mutans*, said method comprising the steps of

(A) providing an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*; anti-*S. sobrinus* antibody whose S/M binding selectivity is not less than 100 wherein S/M binding selectivity is defined as a ratio of the quantity of *Streptococcus sobrinus* to that of *Streptococcus mutans* when the antibody has reacted with *Streptococcus sobrinus* and with *Streptococcus mutans* to give an identical reaction value;

(B) bringing the antibody into contact with the test fluid to form an immune complex; and
(C) assaying the immune complex to detect *Streptococcus sobrinus* by using immunoagglutination techniques, optical immunoassay techniques, labeled immunoassay techniques or a combination thereof.

2. (Currently amended) A method as claimed in claim 1 wherein the antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans* is a polyclonal antibody.

3. (Currently amended) A method as claimed in claim 2 wherein the binding ability selectivity of the antibody for *Streptococcus sobrinus* is determined with respect to the serotype d and g strains of the bacterial species, and the mutual ratio between the binding abilities for the serotype d and g strains is within 2: the ratio of the binding selectivity of the antibody for the serotype d strain to that for the serotype g strain is from $\frac{1}{2}$ to 2.

4. (Cancelled)

5. (Previously presented) A method as claimed in claim 1 wherein the immune complex is assayed by an immunochromatographic technique.

6. (Currently amended) A diagnostic method for judging the degree of risk of dental caries in a human subject, said method comprising the steps of

(a) preparing a test fluid derived from the using saliva and/or dental plaque of collected from the subject;

(b) providing an antibody whose binding ability for Streptococcus sobrinus is not less than 100 times that for Streptococcus mutans; anti-S. sobrinus antibody whose S/M binding selectivity is not less than 100 wherein S/M binding selectivity is defined as a ratio of the quantity of Streptococcus sobrinus to that of Streptococcus mutans when the antibody has reacted with Streptococcus sobrinus and with Streptococcus mutans to give an identical reaction value;

(c) bringing the test fluid prepared in step (a) into contact with the antibody provided in step (b) to form an immune complex; and

(d) assaying the immune complex to detect Streptococcus sobrinus by using immunoagglutination techniques, optical immunoassay techniques, labeled immunoassay techniques or a combination thereof, and evaluating its the detected amount of Streptococcus sobrinus as an index to a risk of dental caries.

7. (Currently amended) A diagnostic method as claimed in claim 6 wherein the antibody whose binding ability for Streptococcus sobrinus is not less than 100 times that for Streptococcus mutans is a polyclonal antibody.

8. (Currently amended) A diagnostic method as claimed in claim 7 6 wherein the binding ability selectivity of the antibody for Streptococcus sobrinus is determined with respect to the serotype d and g strains of the bacterial species, and the mutual ratio between the binding abilities for the serotype d and g strains is within 2: the ratio of the binding selectivity of the antibody for the serotype d strain to that for the serotype g strain is from ½ to 2.

9. (Cancelled)

10. (Currently amended) A diagnostic method as claimed in claim 6 wherein step (c) is carried out in the coexistence of the anti-*S. sobrinus* antibody (S antibody) with an anti-*S. mutans* antibody binding specifically with *Streptococcus mutans* (M antibody), or in addition to step (c), another step similar to step (c) is carried out by using M bringing the test fluid into contact with the anti-*S. mutans* antibody to form an immune complex in place of S antibody; the resulting immune complex derived from M the anti-*S. mutans* antibody is also assayed; and the amount of this complex is also evaluated as an index to a risk of dental caries.

11. (Currently amended) A diagnostic method as claimed in claim 10 wherein an antibody binding specifically with *Streptococcus mutans* and *Streptococcus sobrinus* (MS antibody) is used in place of M the anti-*S. mutans* antibody.

12. (Previously presented) A diagnostic method as claimed in claim 6 wherein one or more immune complexes are assayed by an immunochromatographic technique.

13. (Cancelled)

14. (Currently amended) An immunoassay kit or a diagnostic kit for judging the degree of risk of dental caries in human subjects, said kit including an anti-*S. sobrinus* antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*; whose S/M binding selectivity is not less than 100 wherein S/M binding selectivity is defined as a ratio of the quantity of *Streptococcus sobrinus* to that of *Streptococcus mutans* when the antibody has reacted with *Streptococcus sobrinus* and with *Streptococcus mutans* to give an identical reaction value; and if necessary, an antibody binding specifically with *Streptococcus mutans*, or an antibody binding specifically with *Streptococcus mutans* and *Streptococcus sobrinus*.

~~15.(Currently Amended) An immunochromatographic strip comprising a sample pad for absorbing and holding a test fluid temporarily, a conjugate pad for holding a labeled antibody temporarily, and a development membrane having a detection antibody immobilized thereto and allowing the development of the test fluid absorbed and held temporarily in the sample pad and the labeled antibody flowing out of the conjugate pad together with the test fluid, wherein the sample pad, the conjugate pad and the development membrane are joined together in the order mentioned, said immunochromatographic strip being characterized in that an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans* is used as the detection antibody.~~

An immunochromatographic strip for detecting *Streptococcus sobrinus* in a test fluid which comprises:

- (i) a labeled antibody, having binding ability for *Streptococcus sobrinus*, to which a labeling substance is bound,
- (ii) a detection antibody having binding ability for *Streptococcus sobrinus*,
- (iii) a sample pad for absorbing and holding the test fluid temporarily therein,
- (iv) a conjugate pad for holding the labeled antibody of which the labeled antibody and the test fluid from the sample pad are able to flow out, and
- (v) a development membrane, having the detection antibody immobilized thereto, through which the labeled antibody and test fluid from the conjugate pad are able to flow to contact the detection antibody, wherein:
 - (a) the sample pad, the conjugate pad and the development membrane are joined together in this order,
 - (b) the detection of the *Streptococcus sobrinus* is carried out by detecting the labeling substance in an immune complex at the development membrane, wherein said immune complex has been formed by contacting the labeled antibody and the test fluid, and
 - (c) said detection antibody comprises an anti-*S. sobrinus* antibody whose S/M binding selectivity is not less than 100.

16. (Currently Amended) An immunochromatographic strip as claimed in claim 15 wherein an antibody binding specifically with
Streptococcus mutans or an antibody binding specifically with Streptococcus mutans and
Streptococcus sobrinus is concurrently used as an additional detection antibody immobilized to
the development membrane said detection antibody comprises a combination of the anti-S.
sobrinus antibody and an antibody binding to Streptococcus mutans specifically, or a combination
of the anti-S. sobrinus antibody and an antibody binding to both Streptococcus mutans and
Streptococcus sobrinus.

17. (Currently Amended) A polyclonal antibody whose binding ability for
Streptococcus sobrinus is not less than 100 times that for Streptococcus mutans. An isolated or
purified polyclonal antibody whose S/M binding selectivity is not less than 100 wherein S/M
binding selectivity is defined as a ratio of the quantity of Streptococcus sobrinus to that of
Streptococcus mutans when the antibody has reacted with Streptococcus sobrinus and with
Streptococcus mutans to give an identical reaction value.

18. (Currently Amended) A polyclonal antibody as claimed in claim 17 wherein the
binding ability selectivity of the antibody for Streptococcus sobrinus is determined with respect to
the serotype d and g strains of the bacterial species, and the mutual ratio between the binding
abilities for the serotype d and g strains is within 2: the ratio of the binding selectivity of the
antibody for the serotype d strain to that for the serotype g strain is from ½ to 2.